with which they have been confounded under the name of cancer, osteosarcoma, etc. Heterotopic generation of the constituent elements of the marrow has not yet been observed, notwithstanding that heterotopic generation of epithelial, glandular, and other tissues, has been noticed. In certain fibrous tumours, sometimes developed in contact with the periosteum, but sometimes at a distance from it, myeloplaxes may be met with. In the case of heterotopic production of cartilage—that is to say, in vascular enchondromata—marrow analogous to that of the bones may be found. It is the abnormal production of the cartilage which determines this generation of marrow.—*British Med. Journ.*, June 10, 1865.

MATERIA MEDICA AND PHARMACY.

3. *Liebig's Food for Infants and Invalids.*—Dr. Arthur H. Hassall has written (*Lancet*, July 29, 1865) the following interesting letter in regard to this new article of food:—

"In the preparation of this food, the two principal objects at which Liebig aimed were—first, to produce a food which should resemble human milk in the relative proportions of its heat-giving and flesh-forming constituents; and, secondly, to reduce it to the state most easy of digestion and assimilation.

"It should be clearly understood, however, that the formula given by Liebig, although it furnishes an article having about the same relative composition as human milk, is yet of twice its strength, or, to use the words of Liebig himself, it contains 'the double concentration of woman's milk;' and therefore there is reason to believe that in some cases this food will prove too rich for the infant's stomach, and will require dilution.

"It appears to me that the great merit of Liebig's preparation consists in the use of malt flour as a constituent of the food: this, from the diastase contained in it, exercises, when the fluid food or soup is properly prepared, a most remarkable influence upon the starch, quickly transforming it into dextrin and sugar, so that, in the course of a few minutes, the food, from being thick and sugarless, becomes comparatively thin and very sweet. That the action of the diastase on the starch is very considerable is amply proved by the following analysis:—

Uncooked Food.	
Albuminous matter . . .	9.25 grains per cent.[1]
Dried Cooked Food.	
Albuminous matter . . .	15.84 grains per cent.[2]
Fatty matter	8.49 "
Sugar of glucose	37.73 "
Sugar of milk	10.90 "
Dextrin and starch . . .	27.04 "
Total	100.00

"It will be observed, by an examination of the above figures, that a very large proportion of the starch has become converted, in the course of the preparation of the food, into sugar.

"Correct and ingenious as are the principles upon which this food has been designed, yet the directions given for its preparation are certainly open to considerable improvement. Thus Liebig directs that the malt should be ground in a common coffee-mill and the coarse powder passed through a sieve. This necessitates the subsequent straining of the food—a tedious operation—in order to remove the bran and remaining particles of husk. And further, that the food should be put upon a 'gentle fire' previous to its being finally boiled. Now, a gentle heat may mean almost any temperature nearly up to the boiling point; and,

[1] Containing 1.43 grains of nitrogen. [2] Containing 4.45 grains of nitrogen.

its chemical behaviour, being much more quickly acted on by reagents. A solution of oxalic acid, which acts on the red oxide only after boiling, very quickly changes the yellow oxide, even at the ordinary temperature, into the white oxalate. The preparation of hypochloric acid gas depends on the property the yellow oxide of mercury possesses of decomposing in contact with chlorine gas; the results being hypochloric acid and chloride of mercury; whereas the red oxide undergoes, with chlorine gas at the ordinary temperature, hardly any change. This difference of chemical behaviour of the two oxides constitutes a different degree of resistance to the various agents they are submitted to, and is explained by their different states of cohesion. In respect to the use of the yellow precipitate for eye-ointments, I may be allowed to say a few words on the vehicle of the ointment. The most perfect vehicle for an eye-ointment must be very soft, without, however, being too fluid, lest the heavy oxide sink to the bottom; but when in contact with a moderate heat of the body, it must completely melt, so that the preparation it contains may become quickly and uniformly diffused over the eye. Besides this peculiarity of consistence, the vehicle must be, as far as possible, indifferent in its behaviour to the oxide, and exhibit the least possible tendency to rancidity, which might exert a deoxidizing, reducing action on the oxide. Numerous experiments with hog's-lard, butter, glycerin, glycerin ointment, and mixed fats, have led me to give the preference to the last; and I recommend either the mixture of spermaceti, wax, almond-oil, and rose-water, known as 'cold cream,' only omitting the water, as this favours rancidity, and substituting for it quantities of almond-oil, varying according to the heat of the weather; or a mixture of butter, of cocoa, and almond-oil, likewise proportionate to the temperature. In both compounds the almond-oil must be as fresh as possible, and had best be prepared by the apothecary himself."

Dr. Pagenstecher uses one drachm of this oxide to one ounce of ung. cetacei. If it irritates too much, the strength may be reduced to one-half.

MEDICAL PATHOLOGY AND THERAPEUTICS, AND PRACTICAL MEDICINE.

10. *Epidemic Cerebro-spinal Meningitis in Germany.*—In the number of this journal for July last, p. 222, we presented a brief abstract of Professor WUNDERLICH's observations. In a subsequent paper (*Archiv der Heilkunde*, 1865, No. III.) the results of the author's maturer experience are published, and are of such interest and importance that we propose to present the substance of them to our readers.

The limited epidemic of cerebro-spinal meningitis in Leipzig, in July, 1864, did not terminate with that month. In August and September a few cases occurred, and then, after an interval of not quite four months, the disease revived. Meanwhile it spread throughout Germany.

The phenomena of cerebro-spinal meningitis and their characteristic grouping are so diverse, that individual cases of the disease are often very dissimilar. Thus, it assumes every degree of gravity, now developing itself with an almost explosive and rapidly fatal suddenness, and now lingering through a tedious chronic course.

Its anatomical characters are, also, by no means uniform. The cerebral and spinal pia mater is, indeed, the part most constantly affected, and especially in the severest cases; but sometimes the lesion occupies the convexity and sometimes the base of the brain, and again the spinal membranes, chiefly; not uncommonly the arachnoid is at the same time involved; perhaps the only lesion in other cases may be one affecting the substance of the brain itself or of the spinal cord; and, finally, the amount and the quality of the exudations are extremely